WHAT IS CLAIMED IS:

1. A method comprising:

receiving a delay profile;

processing paths from the delay profile;

placing the processed paths into a plurality of sets based on path criteria; and

assigning the placed processed paths to demodulating fingers.

2. The method of claim 1, wherein there are four sets: an assigned set, a potential set, a temporary set, and a code set, wherein the assigned set contains paths that are assigned to fingers for one or more communications channels, wherein the potential set contains paths of sufficient strength and can be assigned to fingers, wherein the temporary set contains paths after processing of the delay profile, and wherein the code set contains paths that are assigned to a finger for use in demodulating communications channels.

3. The method of claim 1, wherein the path criteria includes path signal quality and age of path.

4. The method of claim 3, wherein the path criteria further includes a hysteresis on the path signal quality.

5. The method of claim 3, wherein the path criteria further includes historical information regarding paths at different delay offsets.

6. The method of claim 5, wherein the historical information can affect the placement of the processed paths into the plurality of sets and the values of path strength, age of path, and hysteresis used in the placing.

7. The method of claim 1, wherein the delay profile is provided by a path searcher.

8. The method of claim 1, wherein the processing comprises:

placing paths with a delay offset greater than a specified threshold from the delay offset of paths in a first set into a group;

removing paths from the group if the path's delay offset is less than the specified threshold from delay offsets of a path in a second or a third set;

adding paths from the group to the third set if the path's delay offset is greater than the specified threshold from the delay offset of a path in the second and third sets; and

filtering paths in the second and third sets.

9. The method of claim 8, wherein the first set contains paths currently assigned to demodulating fingers, the second set contains paths of sufficient quality to be assigned to demodulating fingers, and the third set contains paths from processing of the delay profile.

10. The method of claim 8, wherein paths are added to the third set if the path's delay offset is greater than or equal to the specified threshold from the delay offset of paths in the second and third sets.

11. The method of claim 8, wherein the removing comprises:

marking the path as being close to a path in the second or third sets; and

deleting the path from the group.

12. The method of claim 8, wherein if a path is removed from the group, then the path is marked as being close to a path in the second or third sets, and wherein the filtering comprises:

for a path in the second or third set,

a) determining if there is a removed path marked as being close to the path;

b) filtering the path and its delay offset if there is a removed path marked as being close to the path; and

c) filtering the path if there is not a removed path marked as being close to the path.

13. The method of claim 12, wherein the b) filtering comprises filtering with a maximum strength path and its delay offset if there is more than one removed path marked as being close to the path.

14. The method of claim 12, wherein the filtering further comprises after the b) filtering, merging paths if their filtered delay offsets are less than a specified threshold apart.

15. The method of claim 12, wherein the a) determining, b) filtering, and c) filtering is repeated for each path in the second and third sets.

16. The method of claim 12, wherein the b) filtering and c) filtering makes use of an infinite impulse response (IIR) filter.

17. The method of claim 16, wherein the IIR filter has the form:

$$M_n = (1-a)\cdot M_{n-1} + a\cdot X_n,$$

wherein M_n is the updated filtered measurement result, M_{n-1} is the previous filtered measurement result, X_n is the newest measurement result received from the input, and a is a forgetting factor expressible as $a = 1-\{1-FILTER\_COEFFICIENT\}^{TIME\_FROM\_PREVIOUS\_MEASUREMENT/5}$, where TIME_FROM_PREVIOUS_MEASUREMENT can be an integer value in milliseconds.

18. The method of claim 16, wherein the IIR filter has an overall delay of less than 250 milliseconds.

19. The method of claim 1, wherein a first set contains paths currently assigned to demodulating fingers, a second set contains paths of sufficient quality to be assigned to demodulating fingers, and a third set contains paths from processing of the delay profile, and wherein the placing comprises:

promoting paths from the third set to the second set based on path criteria; and

removing paths from the second and the third set based on path criteria.

20. The method of claim 19, wherein a path is promoted if its path strength meets a triggering condition for a specified amount of time, wherein the triggering condition is expressible as: $M_{Temp} \geq T_{path\_add} * H_{P5}$, wherein T_{path_add} is a threshold for adding a path and H_{P5} is a hysteresis value.

21. The method of claim 20, wherein the specified amount of time is provided by a timer, wherein the timer for the path is initialized when the path is placed in the third set, wherein the timer decrements while the path strength of the path meets the triggering condition, and wherein the timer is disabled when a leaving triggering condition is met, with the leaving triggering condition is expressible as: $M_{Temp} < T_{path\_add} / H_{P5}$.

22. The method of claim 19, wherein a path is removed if its path strength meets a triggering condition for a specified amount of time, wherein the triggering condition is expressible as: $M_{Pot} \leq T_{path\_drop} / H_{P6}$, wherein T_{path_drop} is a threshold for adding a path, and H_{P6} is a hysteresis value.

23. The method of claim 22, wherein the specified amount of time is provided by a second timer, wherein the second timer for the path is initialized when the path is placed in the third set or the second set, wherein the timer decrements while the path strength of the path meets the triggering condition, and wherein the timer is disabled when a leaving triggering condition is met, with the leaving triggering condition is expressible as: $M_{Pot} > T_{path\_drop} * H_{P6}$.

24. The method of claim 19, wherein a path is promoted if its path strength exceeds a triggering condition by a specified margin, wherein the triggering condition is expressible as: $M_{Temp} \geq T_{path\_add} * (1+\Delta)$, wherein T_{path_add} is a threshold for adding a path and Δ may be referred to as a bias factor and can be expressed as

$\Delta = BIAS\_PATH\_ADD * timer\_path\_add / TIME\_TO\_ADD\_PATH$.

25. The method of claim 1, wherein a first set contains paths currently assigned to demodulating fingers, a second set contains paths of sufficient quality to be assigned to demodulating fingers, and a third set contains paths from processing of the delay profile, and wherein the assigning comprises:

if a demodulating finger is available,

determining if a path in the second set is usable;

determining if a path in the second set exceeds an add threshold; and

assigning the path exceeding the add threshold to the demodulating finger.

26. The method of claim 25, wherein the first determining comprises comparing a path's path strength with a triggering condition, wherein the triggering condition can be expressible as: $M_{pot} \geq Q_A * R_{F1} * H_{F1}$, wherein Q_A is the finger quality, R_{F1} is the relative threshold and may be thought of as a scaling factor, and H_{F1} is the hysteresis value for F1.

27. The method of claim 25, wherein the first determining comprises comparing a path's path strength with a triggering condition, wherein the triggering condition can be expressible as: $M_{pot} \geq T_{finger\_add} * H_{F5}$, wherein T_{finger_add} is the threshold for adding a finger and H_{F5} is the hysteresis value for F5.

28. The method of claim 25, wherein if the number of paths exceeding the add threshold is greater than the number of demodulating fingers available, the paths exceeding the add threshold with the greatest path strengths are assigned to the demodulating fingers.

29. A method comprising:

receiving demodulating finger strength measurements;

filtering the demodulating finger strength measurements;

processing demodulating finger assignments;

checking drop timers for the demodulating finger assignments; and

ensuring demodulating finger separation.

30. The method of claim 29, wherein the demodulating finger strength measurements are provided by a rake receiver controller.

31. The method of claim 29, wherein the filtering comprises filtering the demodulating finger strength measurements with an infinite impulse response (IIR) filter.

32. The method of claim 31, wherein the IIR filter is a single pole filter.

33. The method of claim 29, wherein the processing comprises:

for each demodulating finger assignment,

determining if a demodulating finger has become unusable;

determining if a demodulating finger is better than a best demodulating finger;

determining if a demodulating finger should be dropped; and

for unassigned paths with sufficient path strength,

determining if the unassigned path should be assigned to a demodulating finger.

34. The method of claim 33, wherein the demodulating finger has become unusable if its strength passes a triggering condition expressible as: $M_{as} \leq Q_A * R_{F2} / H_{F2}$, wherein Q_A is the

finger quality, R_{F2} is the relative threshold and may be thought of as a scaling factor, and H_{F2} is the hysteresis value.

35. The method of claim 33, wherein the demodulating finger is better than the best demodulating finger if its strength passes a triggering condition expressible as: $M_{NotBest} \geq M_{Best} * H_{F4}$, wherein M_{Best} is the strength of the best demodulating finger and H_{F4} is the hysteresis value.

36. The method of claim 33, wherein the demodulating finger should be dropped if its strength passes a triggering condition expressible as: $M_{as} \leq T_{fingerdrop} / H_{F6}$, wherein $T_{fingerdrop}$ is the threshold for dropping a demodulating finger assignment and H_{F6} is the hysteresis value.

37. The method of claim 33, wherein the unassigned path should be assigned to a demodulating finger if its strength passes a triggering condition expressible as: $M_{pot} \geq M_{as} * H_{F3}$, wherein M_{as} is the strength of a path assigned to a demodulating finger with lowest strength and H_{F3} is the hysteresis value.

38. The method of claim 29 further comprising after the checking, ignoring a delay lock loop report for a demodulating finger if the demodulating finger has a running drop timer.

39. A receiver comprising:

a path searcher coupled to a signal input, the path searcher containing circuitry to provide a delay profile for a received signal from the signal input;

a rake receiver coupled to the signal input, the rake receiver containing circuitry to demodulate the received signal at specified delay offsets and to combine demodulated signals at various offsets into a single received signal; and

a resource manager coupled to the path searcher and the rake receiver, the resource manager to assign demodulating fingers in the rake receiver to demodulate specific paths based on information from the delay profile and to update the demodulating finger assignments when changes in the specific paths are detected.

40. The receiver of claim 39, wherein the resource manager comprises:

a path manager coupled to the path searcher, the path manager to place the specific paths into sets based on path criteria;

a path data structure coupled to the path manager, the path data structure to store information about the specific paths from the delay profile;

a finger manager coupled to the rake receiver, the finger manager to assign the specific paths to demodulating fingers and to update the assignments as changes in the specific paths are detected; and

a finger data structure coupled to the finger manager, the finger data structure to store information about the demodulating finger assignments.

41. The receiver of claim 40, wherein the path data structure and the finger data structure are memories.

42. The receiver of claim 40, wherein the path manager and the finger manager are application programs.

43. The receiver of claim 39, wherein the receiver is part of a wireless device operating in a wireless communications system.

44. The receiver of claim 43, wherein the wireless communications system uses code-division multiple access spread spectrum.

45. The receiver of claim 44, wherein the wireless communications system is CDMA2000 compliant.